

WILDLIFE HABITAT LAND PROJECT PROPOSAL

Maclay Ranch Conservation Easement



1. **Region:** 2
Regional Supervisor: Randy Arnold
Name of Applicant(s): Torrey Ritter, Vickie Edwards (Five Valleys Land Trust), Rebecca Mowry, Jamie Jonkel
2. **Date:** 06/02/2020
3. **Project Name:** Maclay Ranch Conservation Easement (Easement)
4. **Size:** 823 acres
5. **Location:** Approximately 1.5 miles south of Lolo in Missoula County, FWP Region 2.
6. **Map(s):** See figures 1 and 2 for project location, landscape context, and surrounding land ownerships.

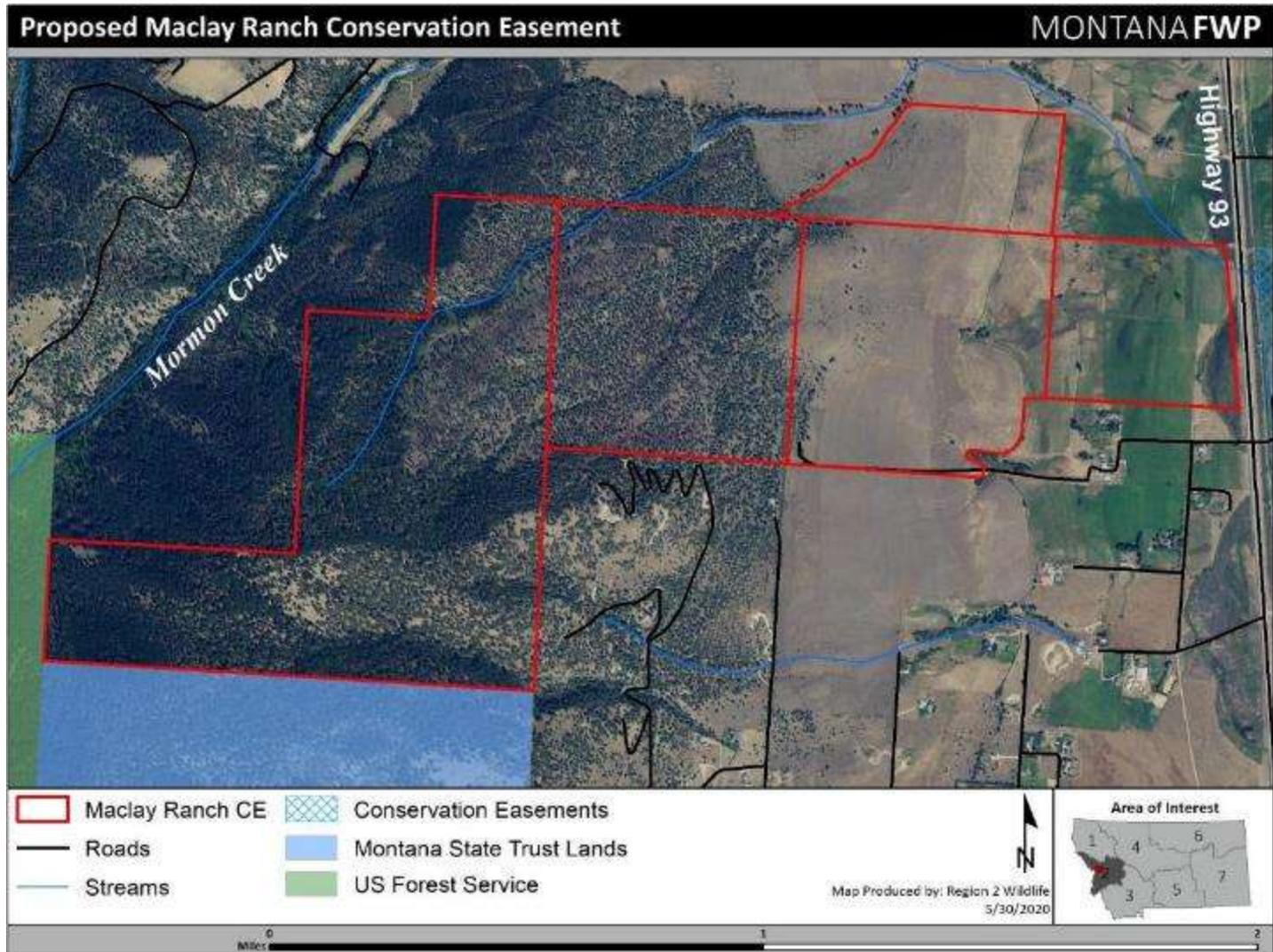


Figure 1. Location of the proposed Maclay Ranch Conservation Easement in the Bitterroot Valley of western Montana (FWP Region 2). All lands not shaded as National Forest or State School Trust lands are privately owned.

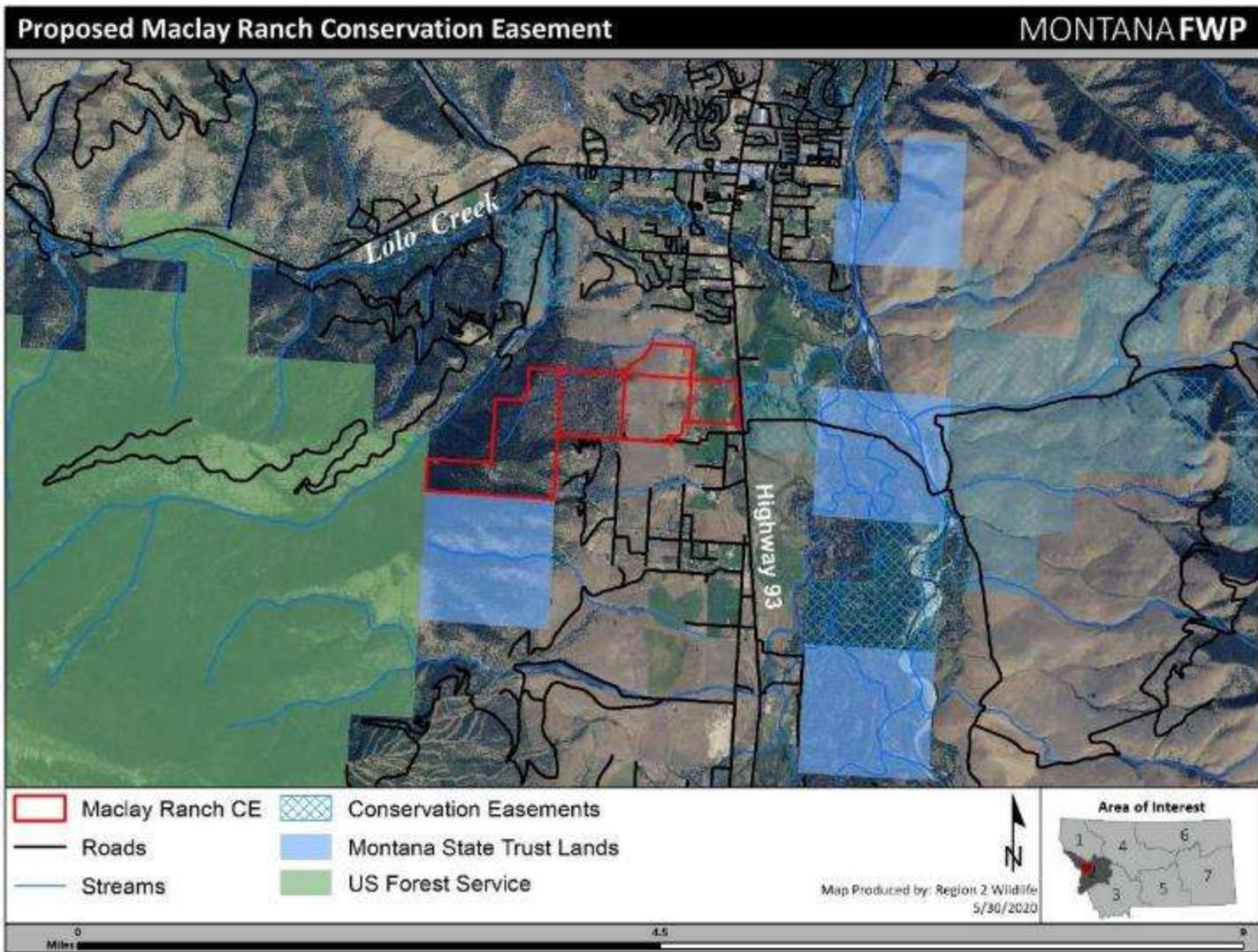


Figure 2. Landscape context map for the proposed Maclay Ranch Conservation Easement in western Montana (FWP Region 2). All lands not shaded as National Forest or State School Trust lands are privately owned.

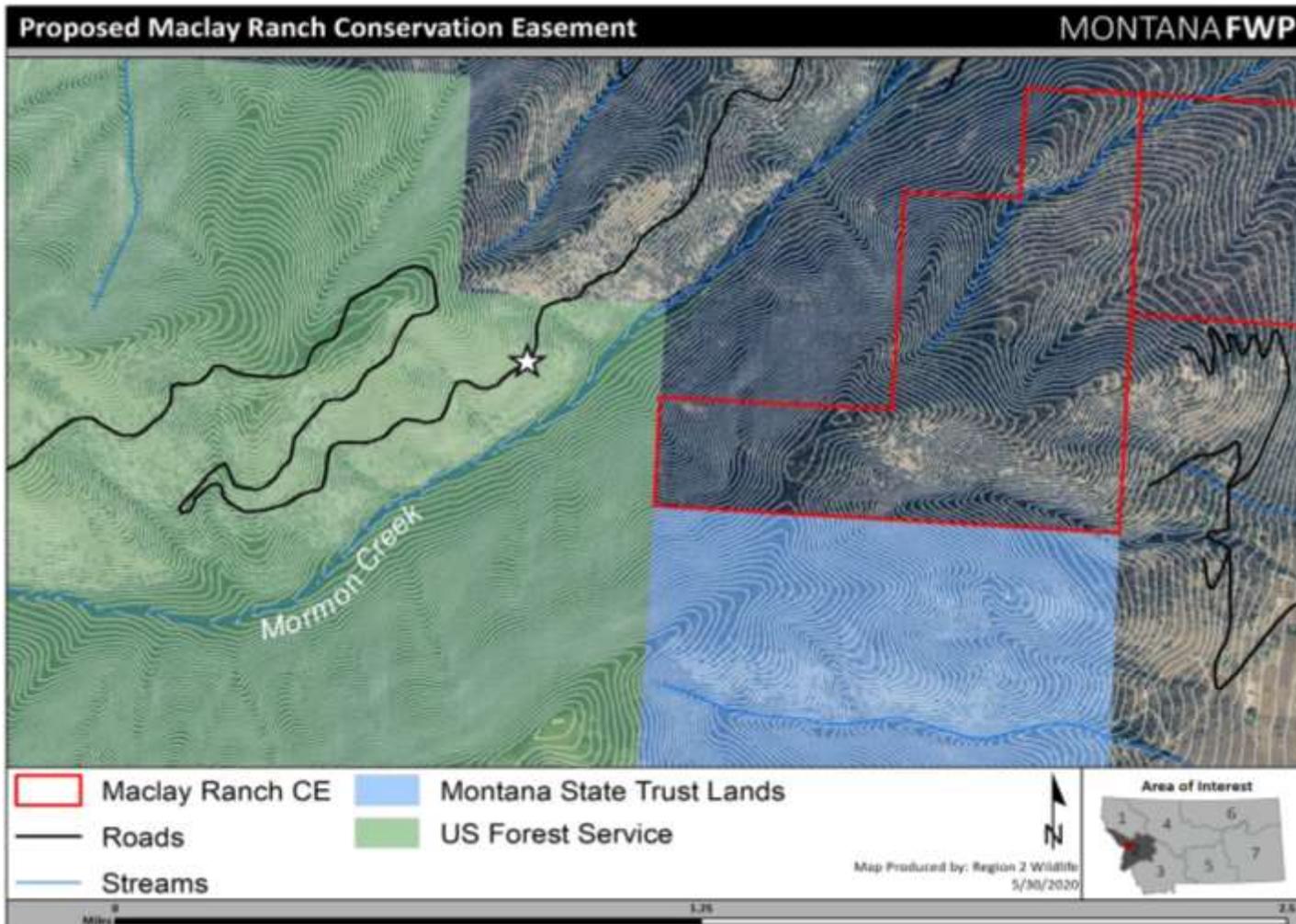


Figure 3. Detail map of current public access to public lands adjacent to the proposed Maclay Ranch Conservation Easement in Western Montana (Region 2). Although there is public access to Bitterroot National Forest and State School Trust lands in this area, the topography makes this access extremely difficult, especially for hunters that would want to pack out game. The white star indicates the closest current public access point in this area.

7. Project Need

The Maclay Ranch Conservation Easement (CE) would:

- 1) Protect a critical movement corridor to maintain connectivity across the Bitterroot Valley for wide-ranging game and nongame wildlife.
- 2) Conserve important elk and deer winter range and maintain the ecological connection between the valley bottom and higher elevation summer range.
- 3) Open up and improve access to the Bitterroot Mountains and associated foothills for hunting.

The Maclay Ranch CE would be an essential component of a network of protected public and private lands that form a corridor across the Bitterroot Valley (Figure 2). This corridor is in an area consistently identified by FWP and other organizations as one of the most important areas for conserving landscape-scale connectivity for wide-ranging and migratory wildlife (Appendix B). The section of Highway 93 running through this area has a high number of wildlife collisions and elk and bears have crossed or attempted to cross the valley at or near the area where this CE would be located. Because of the frequency of wildlife collisions and value of the area as a movement corridor, the portion of Highway 93 to which the Maclay Ranch CE would connect is a priority for possible future investment in wildlife crossing structures.

The primary habitat benefits of the property are elk/deer winter range and cover in close proximity, as well as a mosaic of burned and unburned forest in the higher elevations. The diversity of forest types creates conditions favorable to a variety of forest-dwelling bird species including state Species of Concern (SOC; Table 1). The property also contains native grasslands, which are a limited and threatened habitat type in the Bitterroot Valley. The grasslands provide hunting grounds for raptors and nesting and foraging habitat for songbirds. Wetlands and wet meadows on the property also provide habitat for a range of species.

The proposed Maclay Ranch CE is adjacent to a 642-acre parcel of State School Trust land that is bordered by National Forest and is currently very difficult for the public to access. An FWP-held CE on the Maclay Ranch would provide hunting opportunities on the ranch itself and would greatly improve access to state land and the Bitterroot National Forest (BNF).

8. Statewide Habitat Criteria

The Maclay CE is comprised of a mix of habitat types including 342 acres (42%) of habitats considered to be Tier 1 Community Types under FWP's State Wildlife Action Plan (SWAP; Level 2 Landcover; Tier I Community Types are in bold):

- 387 acres (47%) of Recently Burned (conifer forest)
- **223 acres (27%) of Montane Grassland**
- 90 acres (11%) of Agriculture
- **54 acres (7%) of Conifer-dominated Forest and Woodland (mesic-wet)**
- **48 acres (6%) of Conifer-dominated Forest and Woodland (mesic-xeric)**
- **17 acres (2%) of Floodplain and Riparian/Wet Meadow**
- 4 acres (1%) of Developed

The non-Tier 1 Community Types include 387 acres (47%) of recently burned forest that burned in 2017. Burned areas provide for many important nongame species such as cavity nesting woodpeckers and songbirds, and often provide valuable foraging areas for elk, deer, moose, and bears as the burned areas go through normal succession. There are also 90 acres classified as agriculture, of which all is expected to remain in active production under new ownership, assuming conservation-minded buyers with which Five Valleys Land Trust (FVLT) is currently working end up purchasing the property. The croplands are hay meadows, and most are located in the lower elevations on the property closer to Highway 93. The “Developed” acreage is presumably represented by access roads as no structures currently exist on the property.

Approximately 0.11 miles of an intermittent stream flow through the property in the northwest corner. An active irrigation ditch also flows through the lower portion of the property and has water rights associated with it. According to the real estate listing the “Maclay Ranch holds extensive water rights including irrigation and stock water. Full documentation is available upon request.”

9. Project Level Criteria

a) Site-specific Habitat Values

The proposed Maclay Ranch CE would consist of approximately 823 acres. Starting in the lower elevations near Highway 93, small cattail-dominant wetlands and wet meadows give way to irrigated croplands downhill from an active irrigation canal. Uphill (west) of the irrigation canal the property transitions to mostly native rangelands that were historically grazed by sheep. These rangelands transition into conifer forested areas dominated by ponderosa pine and Douglas-fir. Approximately 47% of the forested areas burned in 2017.

The Maclay Ranch contains valuable deer and elk winter range as well as transitional habitats between the high elevations of the BNF to the west and the Bitterroot River floodplain to the east. The habitats present on the property provide for many game and nongame species, but the primary conservation value of the land is its strategic location linking open space and conservation lands spanning the Bitterroot Valley and connecting to the Lolo Creek drainage. The location of the proposed CE provides an ideal link

between the expansive BNF to the west, and conservation easements, State School Trust lands, lands owned by The Nature Conservancy (TNC), and the conservation-focused MPG Ranch to the east (Figure 2). The MPG Ranch and TNC lands further link to BNF and Lolo National Forest lands in the Sapphire Mountains. Maintaining connectivity across the Bitterroot Valley in this area is critical to protecting the long-term and landscape-scale ecological integrity of the larger, intact ecosystems represented by the Bitterroot and Sapphire Mountains.

Development is rapid and expanding in the Missoula and Bitterroot Valleys and it is critically important to protect and enhance remaining movement corridors in before the expansion of human infrastructure compromises these interconnected ecosystems permanently. The community of Lolo and the surrounding landscape are in the midst of a long-term development boom that is expected to have lasting impacts on natural resources and ecosystems in the area. As a result, significant conservation efforts and attention have been focused on this area in the past decade.

b) Threat Status: PROBABLE

The Lolo and North Bitterroot areas have experienced explosive growth in recent decades as the city of Missoula grows and people seek areas within a short commuting distance of the city. Additionally, land purchases and construction of homes within the wildland-urban interface is rampant in this area. The 2017 Lolo Peak Fire, that burned a portion of the Maclay Ranch, resulted in the active protection and/or loss of many residences. The Maclay Ranch property is within 20 minutes of Missoula via Highway 93 and overlooks the Bitterroot River and Sapphire Mountains with easy access to abundant outdoor recreation opportunities. It is therefore expected that, if the Maclay Ranch is not protected by an easement or acquisition, portions could be subdivided, sold, and developed within 5-10 years. This type of development would be particularly harmful in the lower elevations and would potentially significantly compromise the value of the property as an across-valley movement corridor for wildlife. FVLT, based in Missoula, has been working since the property came on the market in fall 2019 to find conservation-minded buyers who would be willing to maintain the property as working rangeland while working with FWP and FVLT to protect the ecologic values of the property in perpetuity.

c) Focal Priority

- **Does the proposal occur within a 2015 SWAP Regional Focus Area?**
 - Much of the Maclay Ranch property consists of Tier I Community Types as identified by the SWAP, and many Species of Concern and Potential Species of Concern benefit from the habitats on this property (Table 1). Additionally, the property is entirely within the

Bitterroot-Clark Fork Riparian Corridor Tier I Terrestrial Focal Area. Though relatively little riparian habitat exists on this property, the inclusion within the Bitterroot-Clark Fork Riparian Corridor Focal Area highlights the importance of surrounding foothill habitats to the larger riparian corridor associated with the Bitterroot River. The Bitterroot-Clark Fork Riparian Corridor Focal Area is bordered by the Lolo Creek-Northern Bitterroot and Lolo-Clark Fork Connectivity Tier I Terrestrial Focal Areas. These designations highlight not only the habitat and conservation values of the property itself, but also the importance of the entire area to landscape-scale connectivity.

- **Is this proposal part of an ongoing multi-partner initiative?**
 - Protecting this property would leverage significant conservation efforts in the area facilitated by the U.S. Forest Service, FVLT, FWP, TNC, the Rocky Mountain Elk Foundation (RMEF), the Sapphire Ranch, and the MPG Ranch (Figure 2). The widespread focus on the area around Lolo and the northern Bitterroot Valley has resulted in the formation of the Bitterroot-Sapphire Corridor Coalition (BSCC). The BSCC is a Missoula/Bitterroot-based group consisting of representatives from FWP Region 2, Missoula County, FVLT, MPG Ranch, Vital Ground, area private landowners, and other conservation-related non-profit groups. The primary focus of the BSCC is maintaining movement corridors and ecological connectivity in the group's focal area, which is defined as the area between Missoula's southern boundary and the town of Florence. In 2019, the BSCC unanimously concluded that the first and most important step for achieving their goals is land conservation in this area, and the Maclay Ranch was identified as one of the most critical projects. As a result of this group's recommendations as well as other local and regional conservation plans, FVLT has been working to find a conservation-minded buyer for the Maclay Ranch property. Currently, FVLT has several potential buyers they are working with, and they are confident a buyer who is interested in a CE will be secured within the next 6-12 months. Therefore, we are beginning our fundraising efforts for this critical CE with a funding request to the Habitat Montana program. A wide range of sportsperson's and conservation groups are already involved with this project via the BSCC, and we expect enthusiastic support when we begin broader outreach efforts for funding and logistical support.
 - Additional funding for this project will be requested from a variety of sources including the Missoula County Open Space Bond Program, the Montana Fish & Wildlife Conservation Trust, the Rocky Mountain Elk Foundation, the Yellowstone to Yukon Conservation Initiative, and Vital Ground. The importance of this area for connectivity may also fit for funding under Secretarial Order 5532 and other connectivity-related funding sources.

- **Does the proposal comprise substantial grasslands within an FWP Grassland Initiative priority county?**
 - No, but the proposed CE encompasses 223 acres of Montana Grassland habitats. Native grasslands in the Bitterroot Valley are increasingly rare and threatened by development, invasive plants, and conversion for agriculture.

- **Is the proposal within an identified priority area in a species or multi-species conservation plan? Does the proposal support an identified connectivity area/corridor?**
 - The area of which the Maclay Ranch is a part has been identified by multiple conservation plans as high value for wildlife movement, migration, and connectivity. The proposed CE is in an area identified by Secretarial Order 3362 as part of the Anaconda Range to Big Hole, Bitterroot, and Upper Clark Fork Watersheds Priority Area. The corridor of open space and conservation lands that would be completed by the Maclay Ranch CE would be an important corridor to maintain in this priority area. Furthermore, multiple local and regional conservation plans and research publications identify this area as a high priority for conservation actions that maintain connectivity both with the Lolo Creek drainage as well as across the Bitterroot Valley. These plans/publications include:
 - The FVLT 2015-2020 Conservation Plan
 - Analyzing Wildlife Movement Corridors in Montana Using GIS (Walker and Craighead 1997)
 - Northern Sapphire Elk Research Project 2017 Final Report
 - Potential paths for male-mediated gene flow to and from an isolated grizzly bear population (Peck et al. 2017)
 - Other internal FWP documents and GIS layers including modelling efforts and expert opinion.

d) **Geographic Effectiveness**

The proposed Maclay CE property consists of a single block of land connected to the BNF and State School Trust lands to the west, and to a CE on the Sapphire Ranch held by RMEF on the east side of Highway 93 (Figure 2). This configuration with other lands is the most valuable conservation contribution of this property, as it fills in a key area to form a “bridge” of conservation and open space lands that link the northern Bitterroot Mountains to the northern Sapphire Mountains via the Bitterroot Valley floor and the Bitterroot River floodplain. The specific area where the Maclay Ranch abuts Highway 93 has been identified as a potential site for a future highway crossing structure due to the high frequency of wildlife collisions that lend testament to the importance of the area as a high-use movement corridor.

Well before a crossing structure could be seriously considered, land protections need to be in place to make sure wildlife movement is not compromised by future development and other land-use changes.

A CE on the Maclay Ranch property would also protect an expanse of grassland and transitional habitats that effectively extends the footprint of the BNF and State School Trust lands from high elevations down into the Bitterroot Valley bottom. This connection between high and low-elevation habitats is increasingly fragmented on the west side of the Bitterroot Valley, and current development patterns suggest these foothill winter range habitats are highly susceptible to subdivision and development for home sites.

e) **Contribute to hunting and fishing opportunity and other recreation**

The property is located approximately 1.5 miles south of the town of Lolo and is within 20 minutes of the town of Florence and the city of Missoula. Therefore, the potential for significant public interest in the property is high. Highway 93 borders the property on its east side and would provide easy access for hunters from the Missoula and Bitterroot Valleys.

An FWP conservation easement on the Maclay Ranch would open new areas with a variety of habitat types for hunting and would greatly enhance access to State School Trust and BNF lands in the northern Bitterroot Valley. The property is directly adjacent to a 642-acre parcel of State School Trust land that is further bordered by BNF. The area encompassed by the State Land and BNF is difficult for the public to access. Currently, the nearest access to the BNF is via the Mormon Creek Road northwest of the boundary of the Maclay Ranch. Though the Mormon Creek Road is close to the Maclay Ranch and the state land parcel, users would still have to cross a major canyon on foot to get to those areas (Figure 3).

It is currently unknown what other outdoor recreation opportunities may be available via the Maclay Ranch CE. Terms for additional access opportunities outside of hunting would be negotiated with the eventually landowner but may include hiking access into the BNF and State School Trust lands. However, any additional recreation opportunities would need to be managed carefully to not compromise the value of the land as winter range and a movement corridor. Wildlife-viewing from Highway 93 would be enhanced by a CE on this property and would likely improve in the future with additional conservation efforts in the area (e.g., adjacent conservation easements, habitat improvements, crossing structures). There is a high-use, paved public trail that runs along the property's eastern edge, and wildlife-viewing opportunities and viewsheds would be protected and enhanced along this popular trail.

f) **Management Considerations**

The Maclay Ranch CE would require access, grazing, weed, and timber management plans. Access routes, safety zones, and other access-related issues would be negotiated as part of the CE agreement. An access plan would address public hunting and any additional public access that may be allowed under the CE terms as determined by the new landowners. Increased use would occur on the property at least during Commission-approved hunting seasons that would require additional enforcement presence and potentially maintenance for the landowners (e.g., fence and road repairs, weed management). The native rangelands on the property were historically grazed by sheep and the health of these rangelands would be assessed further as a potential CE project moves forward. Realtor photos of the property suggest some weed infestations that would need to be addressed in cooperation with Missoula County. The croplands were historically used to grow hay for feeding cattle, and that land use would be expected to continue under ownership by potential conservation-minded buyers with whom FVLT is working. There are 102 acres of forested habitat that did not burn in 2017, but the status of those forested areas has not been assessed regarding the need for timber management.

There are currently no structures on the property, but a new landowner would likely need to reserve a building envelope if they plan to live on the property. Site selection for any new building sites would be negotiated to avoid comprising wildlife movement and use of the property. There are permanent residences on the border of the property on the north and south sides. These neighboring property owners may experience increased trespass issues if this land is protected under a CE that requires public hunting access. FWP Region 2 staff would work with these landowners before implementing a CE on the Maclay Ranch to address their concerns.

Table 1. List of Species of Concern and Potential Species of Concern that would be supported by habitats within the proposed Maclay Ranch CE.

Species	Type	MT Status	Confirmed	Suspected	Possible
Lewis's Woodpecker	Bird	S2	X		
Western Toad	Amphibian	S2		X	
Black Rosy Finch	Bird	S2			X
Gray-crowned Rosy Finch	Bird	S2			X
Bald Eagle	Bird	S3	X		
Brown Creeper	Bird	S3	X		
Clark's Nutcracker	Bird	S3	X		
Great Blue Heron	Bird	S3	X		
Grizzly Bear	Mammal	S2S3	X		
Hoary Bat	Mammal	S3	X		
Fisher	Mammal	S3	X		
Pileated Woodpecker	Bird	S3	X		
Black-backed Woodpecker	Bird	SNR		X	
Bobolink	Bird	S3		X	
Canada Lynx	Mammal	S3		X	
Cassin's Finch	Bird	S3		X	
Evening Grosbeak	Bird	S3		X	
Golden Eagle	Bird	S3		X	
Great Gray Owl	Bird	S3		X	
Little Brown Myotis	Mammal	S3		X	
Loggerhead Shrike	Bird	S3		X	
Long-billed Curlew	Bird	S3		X	
Northern Goshawk	Bird	S3		X	
Western Skink	Reptile	S3		X	
Flammulated Owl	Bird	S3			X
Fringed Myotis	Mammal	S3			X
Northern Alligator Lizard	Reptile	S3			X
Northern Hawk Owl	Bird	S3			X
Pacific Wren	Bird	S3			X
Preble's Shrew	Mammal	S3			X
Pygmy Shrew	Mammal	S3			X
Townsend's Big-eared Bat	Mammal	S3			X
Varied Thrush	Bird	S3			X
Veery	Bird	S3			X
Wolverine	Mammal	S3			X
Yuma Myotis	Mammal	S3			X

Appendix A. Representative photos of the proposed Maclay Ranch Conservation Easement.

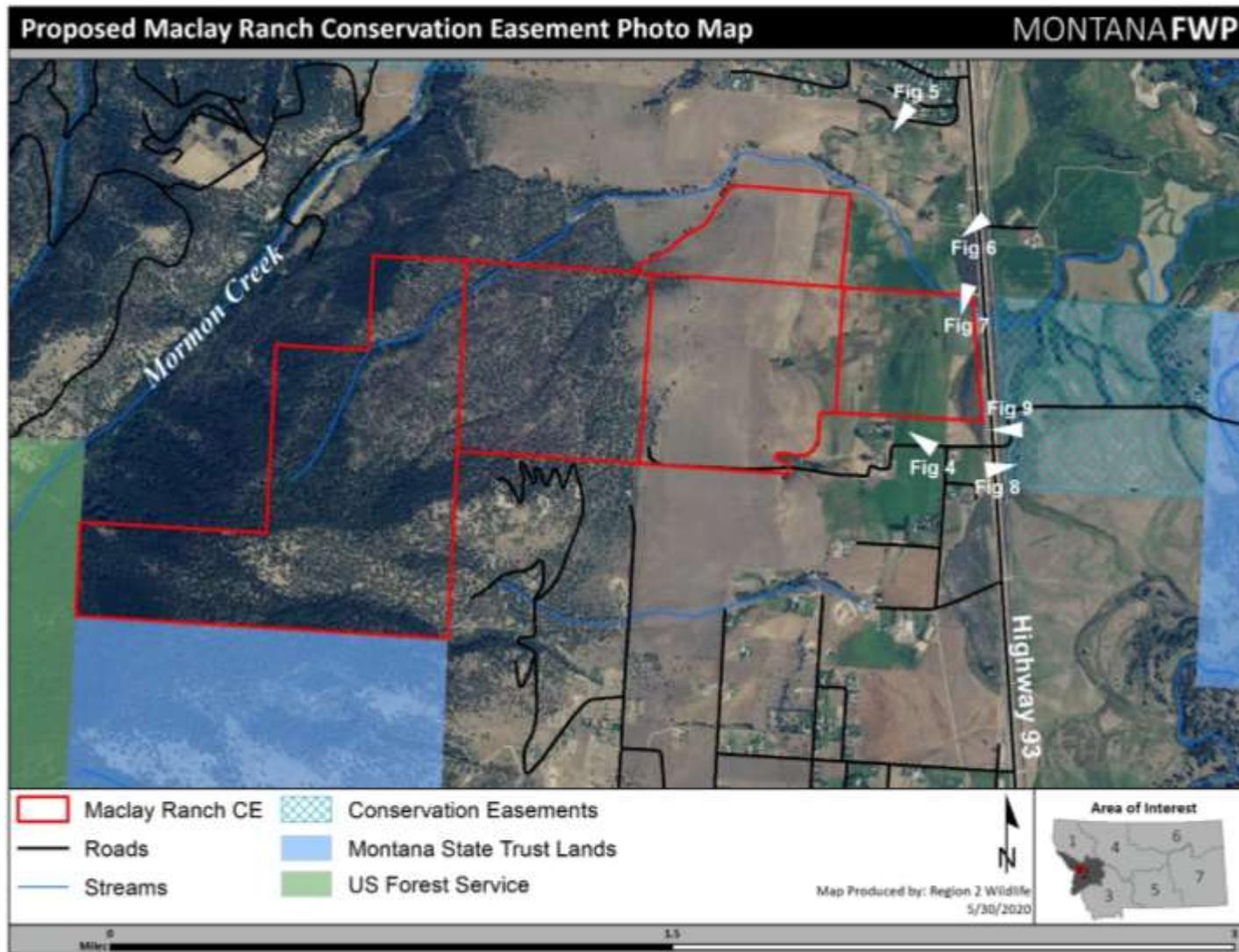




Figure 4. View of the Maclay Ranch from the Maclay Ranch Road looking northwest from approximately the property's southeast corner. The lower elevations are hay meadows irrigated via a ditch located near the scattered trees running along the right side of the photo. Above the ditch are native grasslands leading into forested higher elevations. The house on the left side of the photo is just outside the boundaries of the Maclay Ranch property.



Figure 5. View of the Maclay Ranch from the north side of the property looking south. The Maclay Ranch property encompasses the distant grasslands and forested areas past the first row of trees in the photo but before the abandoned ski hill. This view shows the entire property from the higher elevation forested areas to Highway 93 visible on the far-left side of the photo.



Figure 6. View of the Maclay Ranch as seen from Highway 93 from approximately the northeast corner of the property looking southwest. The portion of the property closest to Highway 93 features cattail wetlands that transition to pasture.



Figure 7. View of the lower (eastern-most) portion of the Maclay Ranch where the property abuts Highway 93. Pictured is a public bike and walking path that runs from Missoula to the town of Stevensville in the Bitterroot Valley. This is a highly popular recreation trail and the proposed CE would protect the wetlands as well as the viewshed along this trail and the highway.



Figure 8. View from Highway 93 looking 180 degrees away from the Maclay Ranch. This property is part of the Sapphire Ranch and is protected by a CE held by RMEF. Beyond the RMEF CE is State School Trust Lands, then the Bitterroot River, and finally the MPG Ranch. Protecting the Maclay Ranch with a CE would create a bridge of protected lands spanning from the Bitterroot Mountains, across Highway 93, and all the way to the horizon in this photo which ends in the BNF in the Sapphire Mountains.



Figure 9. This photo is looking 180 degrees from Figure 7, showing the Maclay Ranch behind Highway 93. The Maclay Ranch property extends from the forested area in the photo to the highway. The railroad tracks in the foreground are no longer in use.

Appendix B. Supplemental information on the importance of the Maclay Ranch to wildlife movement and migration in the northern Bitterroot Valley.

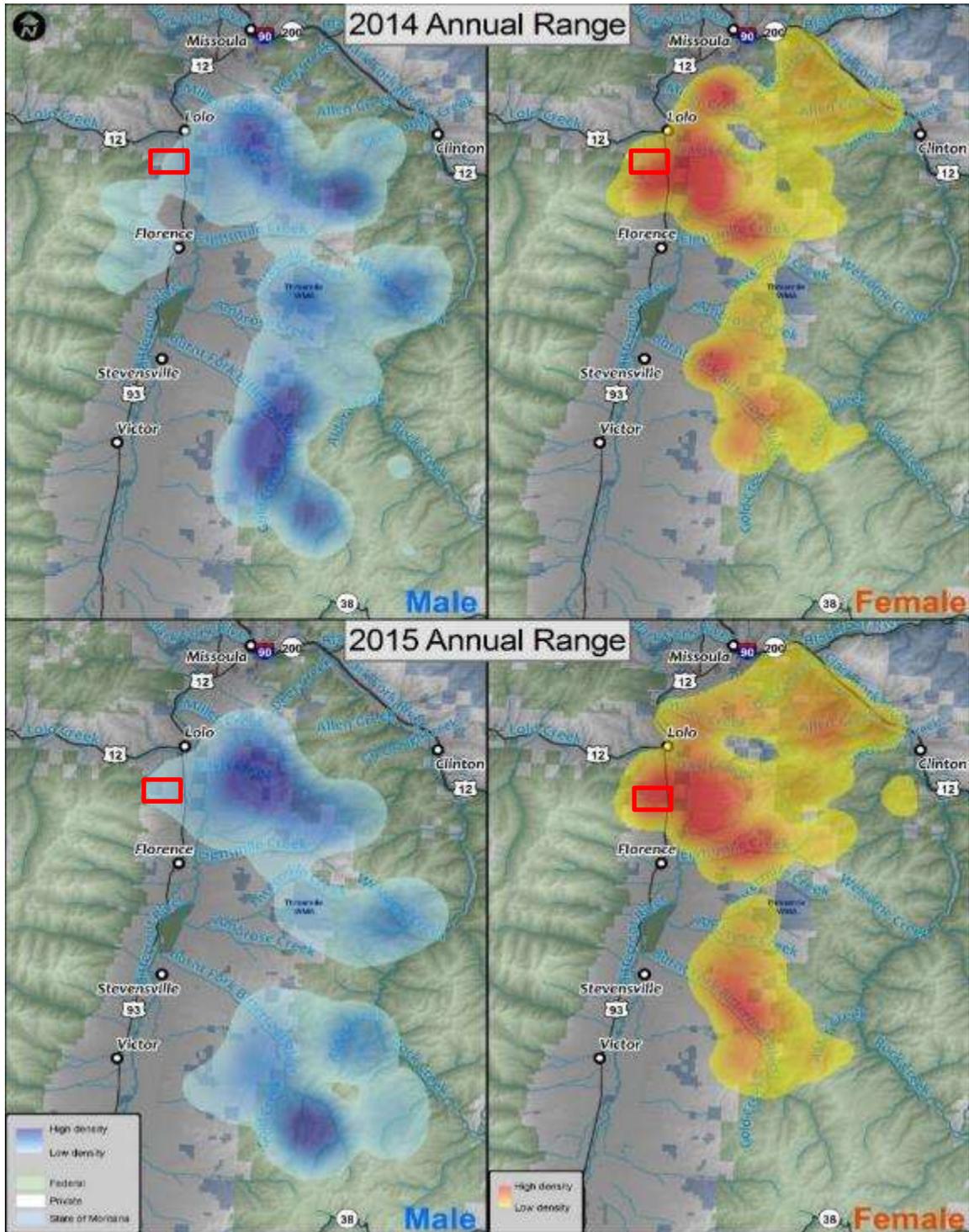


Figure 10. Annual ranges of male and female elk for 2014 and 2015 in the North Sapphire elk population (Northern Sapphire Elk Research Project Final Report 2017). Darker regions within annual ranges indicate higher density of elk GPS locations. The red rectangle delineates the approximate boundary of the proposed Maclay Ranch CE.

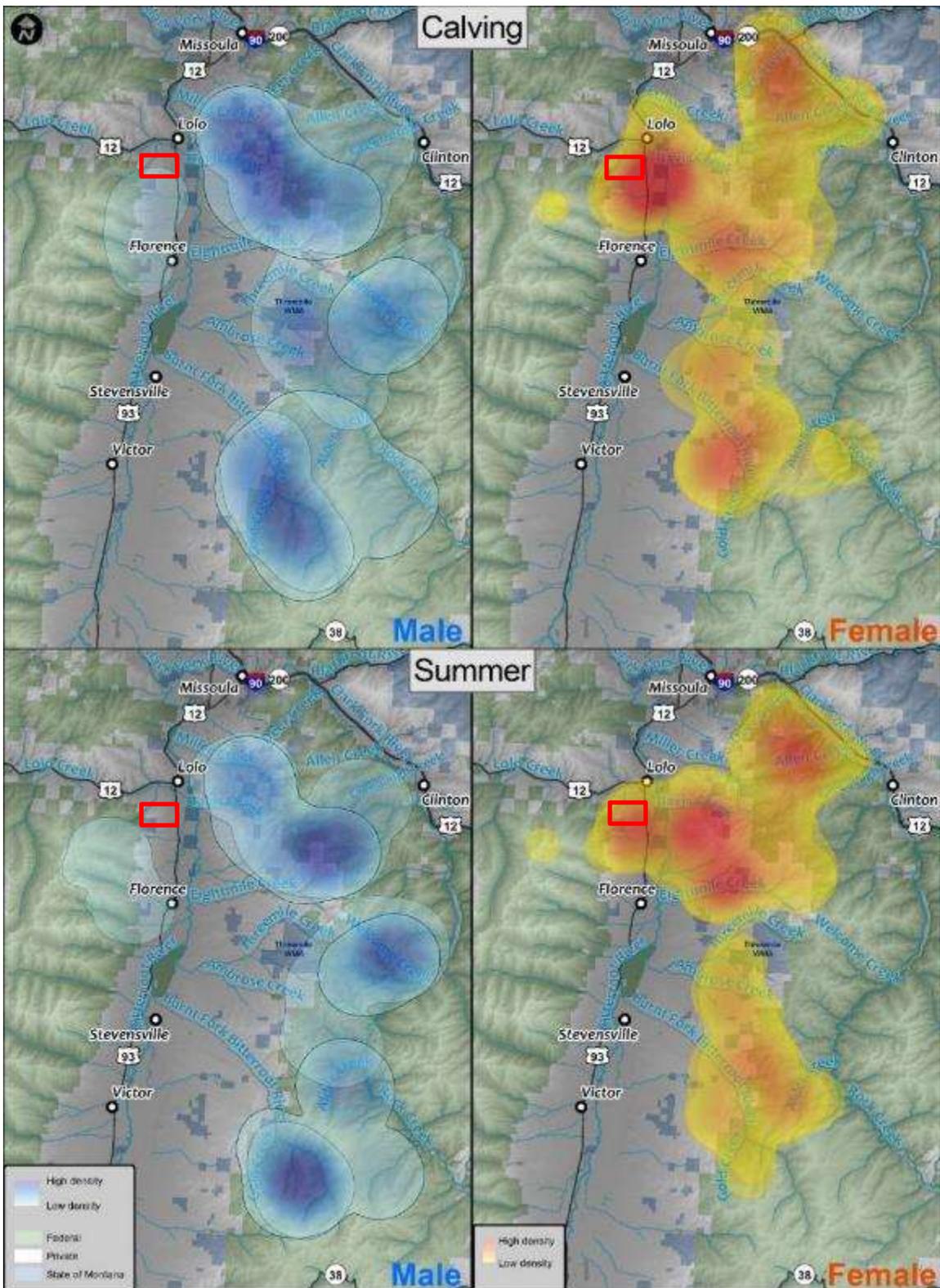


Figure 11. Calving and summer distributions for male and female elk showing the relative density of locations for GPS-collared elk (2015 distributions overlaid on top of 2014; Northern Sapphire Elk Research Project Final Report 2017). The red rectangle delineates the approximate boundary of the proposed Maclay Ranch CE.

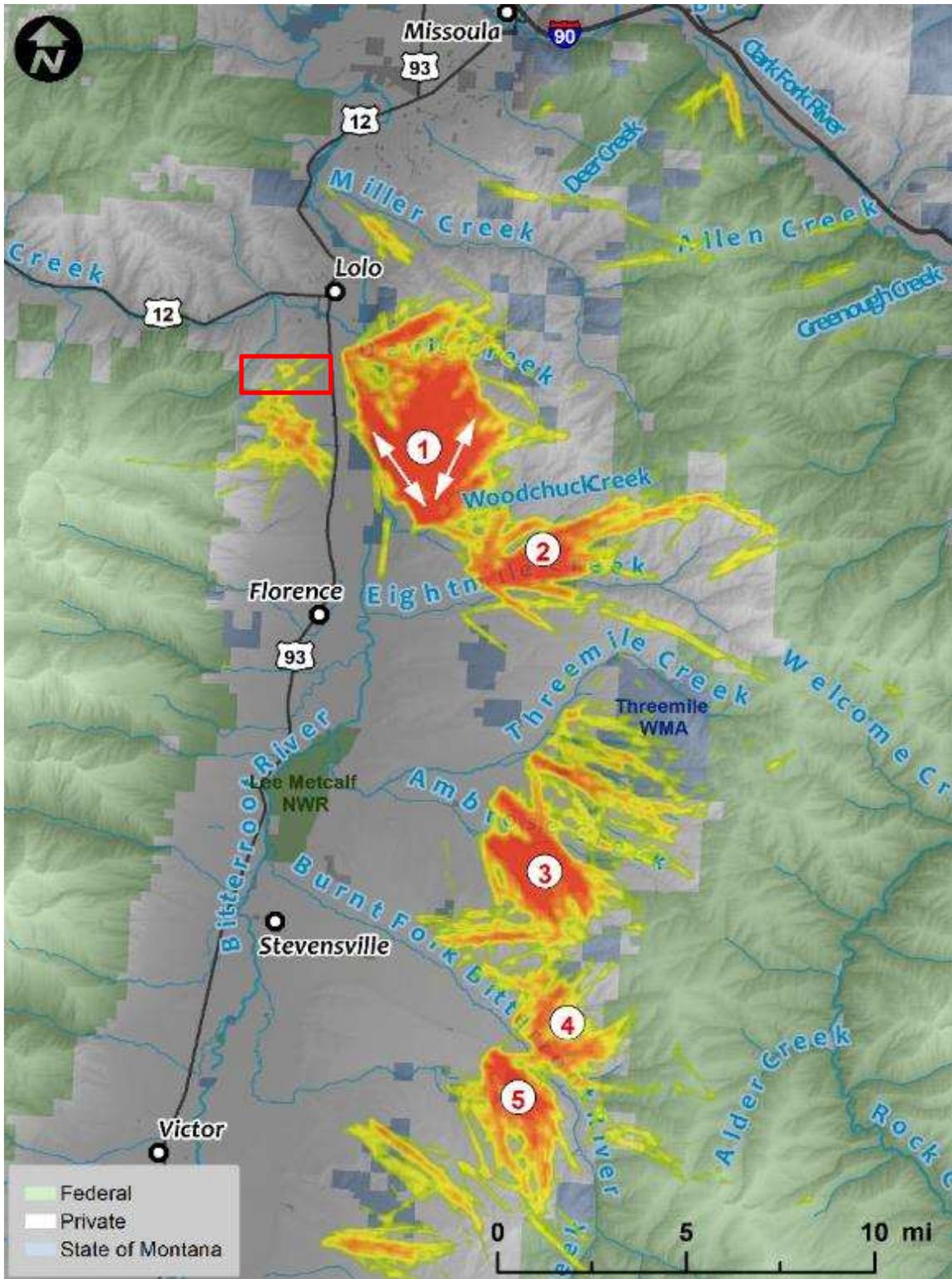


Figure 12. Travel corridors as identified by density of rapid, long distance movements (>2,500 m per 2 hours) by at least one individual across 2014-2015 (Northern Sapphire Elk Research Project Final Report 2017). Yellow to red indicate increasing densities of these movements through time. Red numbers indicate corridors discussed in the text of the final report. The red rectangle delineates the approximate boundary of the proposed Maclay Ranch CE.

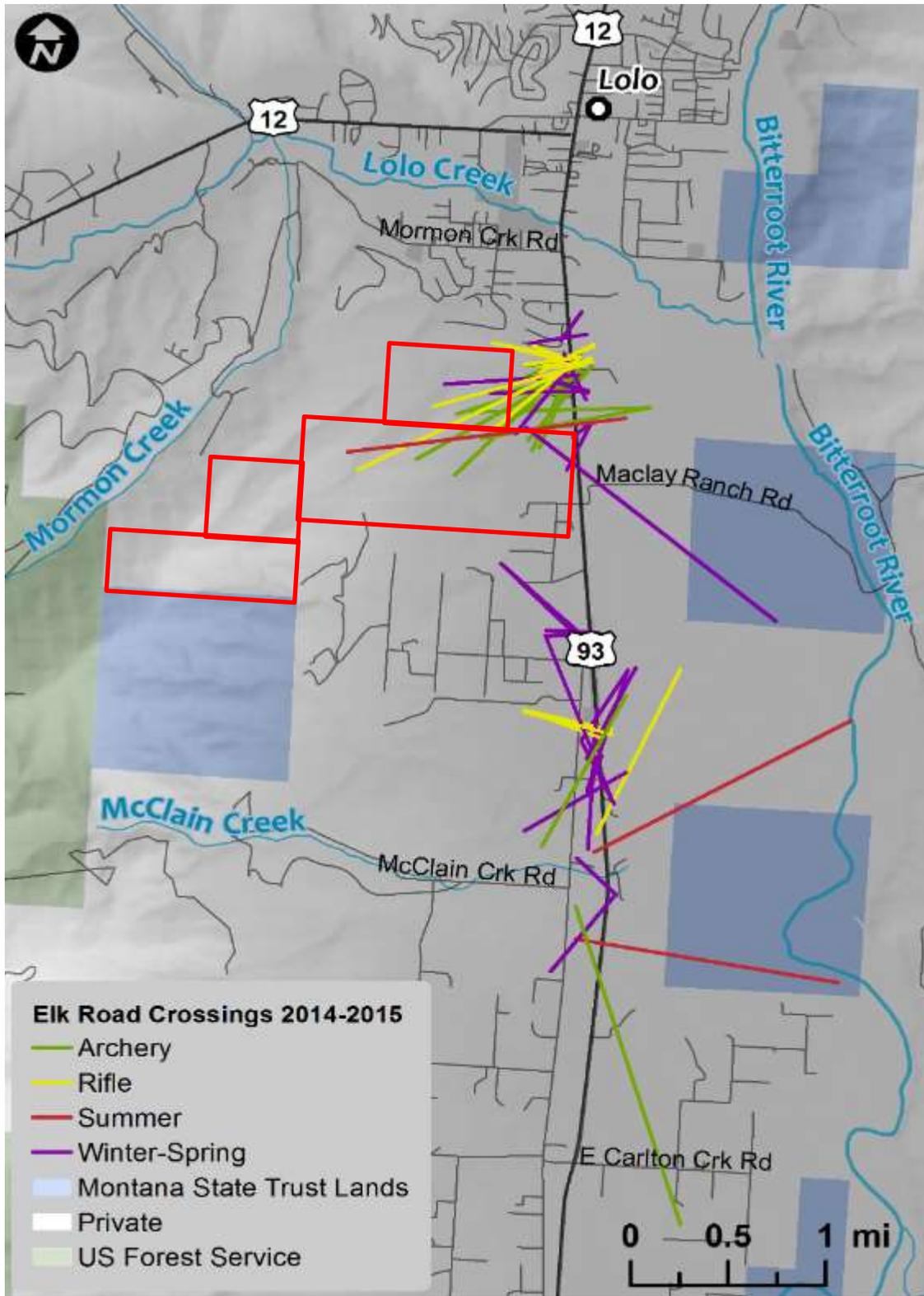
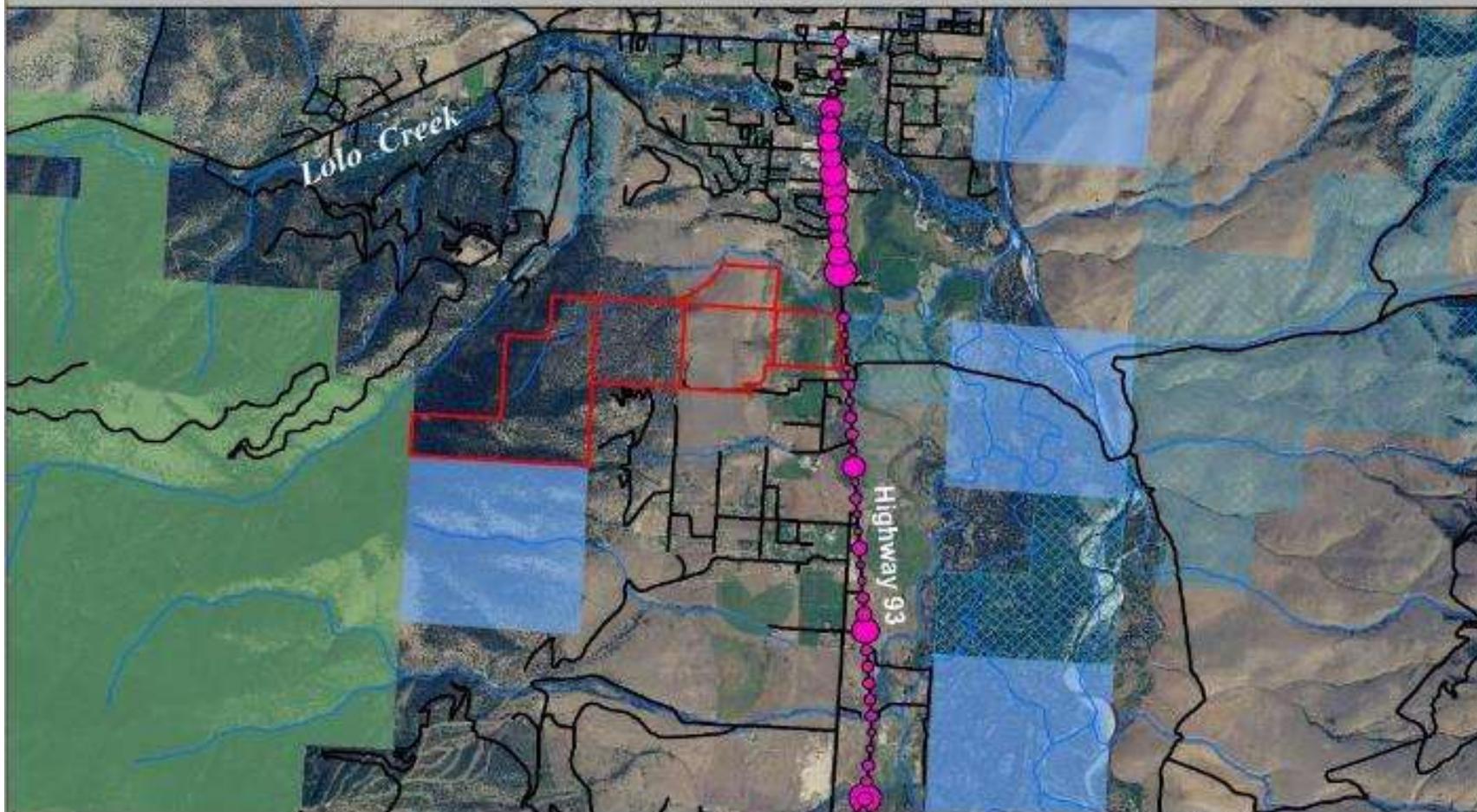


Figure 13. US Highway 93 seasonal crossings of GPS-collared elk during 2014–2015 (Northern Sapphire Elk Research Project Final Report 2017). Lines are segments connecting locations recorded prior to and after crossing the highway. The red outline delineates the approximate boundary of the proposed Maclay Ranch CE.

Proposed Maclay Ranch Conservation Easement

MONTANA FWP



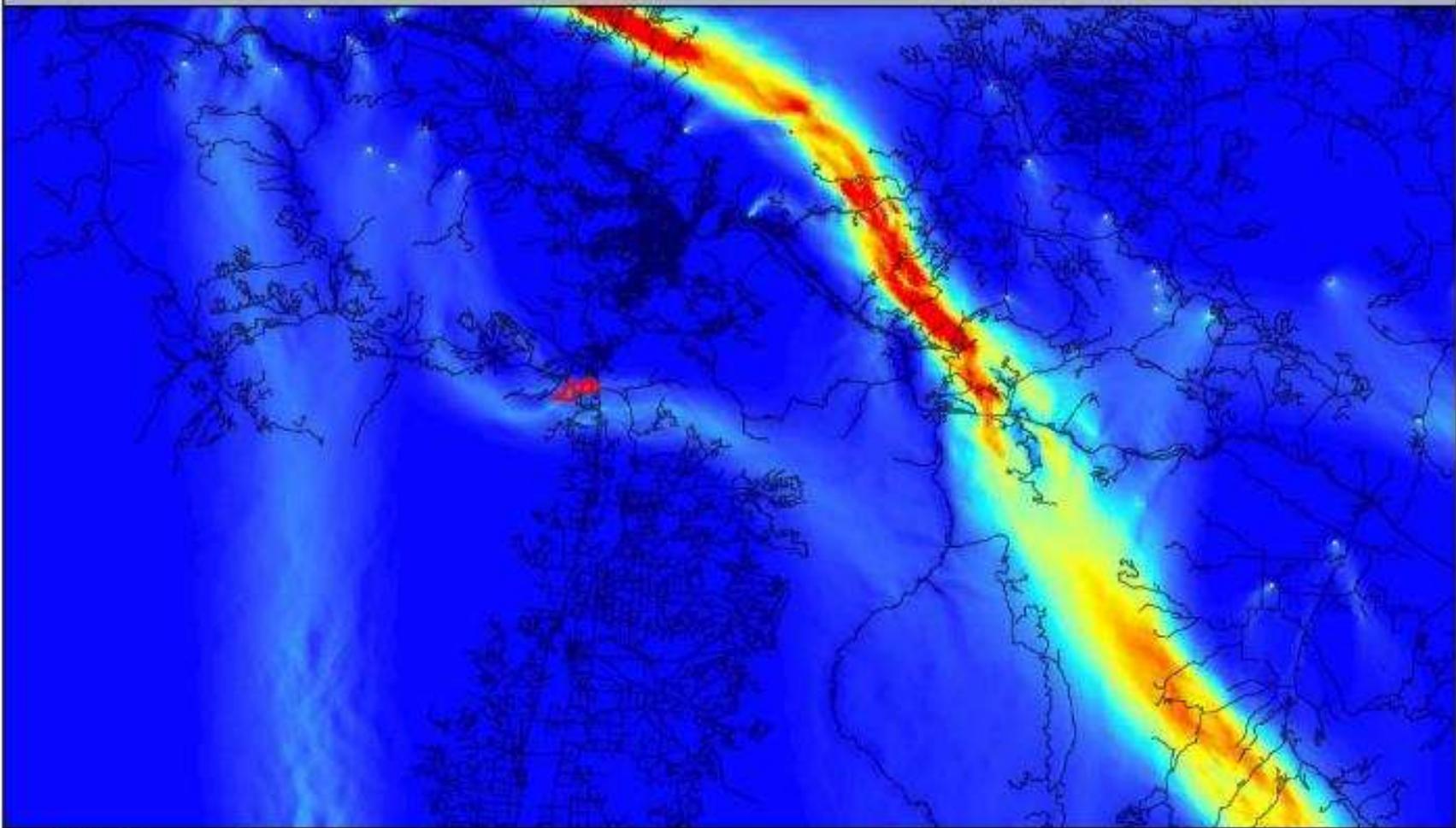
Wildlife Collisions	● 13 - 16	▭ Maclay Ranch CE	▨ Conservation Easements
● 1 - 4	● 17 - 21	— Roads	■ Montana State Trust Lands
● 5 - 8	● 22 - 32	— Streams	■ US Forest Service
● 9 - 12	● 33 - 41		



Figure 14. Wildlife collision data collected via the Montana Department of Transportation indicates frequent wildlife crossings of Highway 93 around the area where the proposed Maclay Ranch CE is located. It is important to note that topographic features and the presence of a broad creek floodplain make the area just north of the proposed CE a much higher frequency collision area, but rampant development will likely diminish the value of this area as a movement corridor in the coming decades. Therefore, the corridor created by the Maclay Ranch CE and surrounding open space and conservation lands will represent a long-term investment in maintaining wildlife movement and connectivity in this area.

Proposed Maclay Ranch Conservation Easement

MONTANA FWP



 Maclay Ranch CE

 Roads

GB Movement Corridors

Value

High : 4.04431

Low : 0



Figure 15. Modelled grizzly bear movement corridors as identified by Peck et al. 2017. There were many outputs from this study, but almost all of the resulting maps indicate a potential pathway through the area encompassed by the Maclay Ranch CE. While this is clearly not a major modelled movement corridor, it is important to note that this study focused on male-mediated gene flow between the Northern Continental Divide Ecosystem and the Greater Yellowstone Ecosystem, and so the value of the corridor supported by the Maclay Ranch for grizzly bear movements would not be expected to stand out. We expect future modelling efforts focused on the Selway-Bitterroot Wilderness ecosystem will highlight this corridor significantly. Regardless, the model highlights that the gap in road density and presence of conservation and open space lands on both sides of Highway 93 make this a valuable area for cross-valley movement between the Bitterroot Mountains and the Sapphire Mountains.